Element	mass	$T_{1/2}$	beam	E_{beam}	target	thickness	Volume	σ	yield	I_{beam}	Target Power	Power Density	total yield	ε_{ion}	ε_{rel} (5)	ε_{total}	yield $_{1+}$
				[MeV]		[g/cm ^{2}]	[cm ^{3}]	[method]	[atoms / p μ A]	[p μ A]	[kW]	kW/cm ^{3}	[ions/sec]	[%]	[%]	[%]	[ions/sec]
Li			^{18}O	1800	Li	2.2(2-step)[1]	4/	Frag./data		60	100/	25/					
	8	0.84s							2 E+09				9 E+10	95%	90.0%	85.5%	8 E+10
	9	0.18s							1 E+09				8 E+10	95%	90.0%	85.5%	7 E+10
	11	8.7ms							8 E+06				5 E+08	95%	20.0%	19.0%	1 E+08
Be			^{10}B	1000	Li	3(2-step)[4]	6/	Frag./EPAX		60	100/	16/					
	7	53.3d							3 E+10				2 E+12	20%	30.0%	6.0%	1 E+11
Be			^{18}O	1800	Li	2.1(2-step)[4]	4/	Frag./data		60	100/	25/					
	10	1.6My							1 E+10				6 E+11	20%	30.0%	6.0%	4 E+10
	11	13.8s							2 E+09				1 E+11	20%	30.0%	6.0%	6 E+09
	12	24ms							2 E+08				9 E+09	20%	30.0%	6.0%	5 E+08
	14	4.3ms							1 E+06				8 E+07	20%	30.0%	6.0%	5 E+06
Ar			p	200	CaO	35	900	EPAX		500	100	0.08					
	31	15ms							1 E+04				6 E+06				
	32	75ms							2 E+06				8 E+08				
	33	173ms							8 E+07				4 E+10				
	34	840ms							2 E+09				9 E+11				
	35	1.8s							1 E+10				7 E+12				
Ar			^{36}Ar	3600	Li	0.83(2-step)[4]	2/	Frag./EPAX		25	76/	38/					
	31	15ms							1 E+04				3 E+05	20%	30.0%	6.0%	2 E+04
	32	75ms							1 E+06				3 E+07	20%	30.0%	6.0%	2 E+06
	33	173ms							3 E+07				9 E+08	20%	30.0%	6.0%	5 E+07
	34	840ms							3 E+08				9 E+09	20%	30.0%	6.0%	5 E+08
	35	1.8s							4 E+09				1 E+11	20%	30.0%	6.0%	6 E+09
Ar			^{48}Ca	4800	Li	0.9(2-step)[4]	2/	Frag./EPAX		10	50/	25/					
	41	1.83h							2 E+10				2 E+11	20%	30.0%	6.0%	1 E+10
	42	33a							1 E+10				1 E+11	20%	30.0%	6.0%	7 E+09
	43	5.4m							7 E+09				7 E+10	20%	30.0%	6.0%	4 E+09
	44	11.9m							3 E+09				3 E+10	20%	30.0%	6.0%	2 E+09
	45	21.5s							1 E+09				1 E+10	20%	30.0%	6.0%	8 E+08
	46	8.4s							5 E+08				5 E+09	20%	30.0%	6.0%	3 E+08
Ar			^{64}Ni	6400	Li	0.62(2-step)[4]	1.2/	Frag./EPAX		10	64/	50/					
	47	700ms							1 E+05				1 E+06	20%	30.0%	6.0%	6 E+04
	48								1 E+04				1 E+05	20%	30.0%	6.0%	8 E+03
K			p	200	CaO	35	900	EPAX		500	100	0.08					
	34								2 E+06				1 E+09				
	35	190ms							1 E+08				6 E+10				
	36	342ms							2 E+09				1 E+12				
	37	1.2s							1 E+10				7 E+12				
	38	7.6m							5 E+10				3 E+13				
K			^{40}Ca	4000	Li	0.75(2-step)[4]	1.5/	Frag./EPAX		10	40/	27/					
	35	190ms							3 E+07				3 E+08	20%	30.0%	6.0%	2 E+07

Element	mass	$T_{1/2}$	beam	E_{beam}	target	thickness	Volume	σ	yield	I_{beam}	Target Power	Power Density	total yield	ε_{ion}	ε_{rel} (5)	ε_{total}	yield $_{1+}$
				[MeV]		[g/cm ^{2}]	[cm ^{3}]	[method]	[atoms / p μ A]	[p μ A]	[kW]	kW/cm ^{3}	[ions/sec]	[%]	[%]	[%]	[ions/sec]
	36	342ms							5 E+08				5 E+09	20%	30.0%	6.0%	3 E+08
	37	1.2s							4 E+09				4 E+10	20%	30.0%	6.0%	2 E+09
	38	7.6m							1 E+10				1 E+11	20%	30.0%	6.0%	8 E+09
K			^{12}C	1200	UC	10	240	Data/Scale		80	80	0.33					
	42	12.4h							1 E+08				8 E+09	95%	90.0%	85.5%	6 E+09
	43	22.2h							1 E+08				1 E+10	95%	90.0%	85.5%	1 E+10
	44	22.2m							1 E+08				8 E+09	95%	90.0%	85.5%	7 E+09
	45	17.8m							1 E+08				1 E+10	95%	90.0%	85.5%	8 E+09
	46	115s							2 E+08				1 E+10	95%	30.0%	28.5%	4 E+09
	47	17.5s							7 E+07				6 E+09	95%	20.0%	19.0%	1 E+09
	48	6.8s							2 E+07				1 E+09	95%	15.0%	14.3%	2 E+08
	49	1.26s							1 E+06				1 E+08	95%	10.0%	9.5%	1 E+07
	50	472ms							4 E+05				3 E+07	95%	2.0%	1.9%	6 E+05
	51	365ms							1 E+05				8 E+06	95%	2.0%	1.9%	2 E+05
Ni			^{58}Ni	6400	Li	0.56(2-step)[4]	1/	Frag./EPAX		10	50/	50/					
	52	38ms							3 E+03				3 E+04	20%	30.0%	6.0%	2 E+03
	53	45ms							1 E+05				1 E+06	20%	30.0%	6.0%	8 E+04
	54								4 E+06				4 E+07	20%	30.0%	6.0%	2 E+06
	55	212ms							5 E+07				5 E+08	20%	30.0%	6.0%	3 E+07
Ni			p	50	^{58}Ni	1[3](batch)	5	ALICE		100	5	1					
	56	6.1d							4 E+09				4 E+11	40%	50.0%	20.0%	7 E+10
Ni			^{70}Zn	7000	Li	0.56(2-step)[4]	1/	Frag./EPAX		10	50/	50/					
	66	54.6h							2 E+09				2 E+10	20%	30.0%	6.0%	1 E+09
	67	21s							1 E+09				1 E+10	20%	30.0%	6.0%	6 E+08
	68	19s							4 E+08				4 E+09	20%	30.0%	6.0%	3 E+08
Ni			^{76}Ge	7600	Li	0.59(2-step)[4]	1.2/	Frag./EPAX		10	60/	50/					
	69	11.3s							5 E+07				5 E+08	20%	30.0%	6.0%	3 E+07
	70								2 E+07				2 E+08	20%	30.0%	6.0%	1 E+07
	71	1.9s							5 E+06				5 E+07	20%	30.0%	6.0%	3 E+06
	72	2.1s							1 E+06				1 E+07	20%	30.0%	6.0%	8 E+05
Ni			^{86}Kr	8600	Li	0.5(2-step)[4]	1/	Frag./EPAX		10	70/	70/					
	73	0.9s							2 E+04				2 E+05	20%	30.0%	6.0%	1 E+04
	74	1.1s							5 E+03				5 E+04	20%	30.0%	6.0%	3 E+03
	75								1 E+03				1 E+04	20%	30.0%	6.0%	6 E+02
	76								2 E+02				2 E+03	20%	30.0%	6.0%	1 E+02
Ni			d	250	UC	n(2-step)[2]	8/	LAHET		400	100/	12.5/					
	66	54.6h						MCNP	5 E+06				2 E+09	40%			
	67	21s						n database	4 E+06				2 E+09	40%			
	68	19s							2 E+07				6 E+09	40%			
	69	11.3s							2 E+07				6 E+09	40%			
	70								2 E+07				1 E+10	40%			
	71	1.9s							1 E+07				5 E+09	40%			
	72	2.1s							2 E+07				9 E+09	40%			
	73	0.9s							7 E+06				3 E+09	40%			

Element	mass	$T_{1/2}$	beam	E_{beam}	target	thickness	Volume	σ	yield	I_{beam}	Target Power	Power Density	total yield	ε_{ion}	ε_{rel} (5)	ε_{total}	yield $_{1+}$
				[MeV]		[g/cm ^{2}]	[cm ^{3}]	[method]	[atoms / p μ A]	[p μ A]	[kW]	kW/cm ^{3}	[ions/sec]	[%]	[%]	[%]	[ions/sec]
	74	1.1s							3 E+06				1 E+09	40%			
	75								5 E+05				2 E+08	40%			
	76								8 E+04				3 E+07	40%			
	77								8 E+03				3 E+06	40%			
	78								3 E+02				1 E+05	40%			
	79								1 E+00				5 E+02	40%			
Kr			p	200	ZrO	42.5	1000	EPAX		500	100	0.07					
	72	17.2s							9 E+05				5 E+08				
	73	26s							2 E+07				1 E+10				
	74	11.5m							3 E+08				1 E+11				
	75	4.5m							2 E+09				9 E+11				
	76	14.6h							8 E+09				4 E+12				
	77	1.24h							2 E+10				9 E+12				
Kr			^{84}Sr	8400	Li	0.45(2-step)^4	0.9/	EPAX		1	8/	9/					
	72	17.2s							1 E+06				1 E+06	20%	30.0%	6.0%	6 E+04
	73	26s							2 E+07				2 E+07	20%	30.0%	6.0%	1 E+06
	74	11.5m							2 E+08				2 E+08	20%	30.0%	6.0%	1 E+07
	75	4.5m							9 E+08				9 E+08	20%	30.0%	6.0%	6 E+07
	76	14.6h							3 E+09				3 E+09	20%	30.0%	6.0%	2 E+08
	77	1.24h							6 E+09				6 E+09	20%	30.0%	6.0%	4 E+08
Kr			d	250	UC	n(2-step)^2	8/	LAHET		400	100/	12.5/					
	87	76.3m						MCNP	5 E+08				2 E+11	40%	80.0%	32.0%	6.E+10
	88	2.84h						n database	2 E+09				6 E+11	40%	90.0%	36.0%	2.E+11
	89	3.18m							3 E+09				1 E+12	40%	80.0%	32.0%	4.E+11
	90	32.3s							4 E+09				2 E+12	40%	75.0%	30.0%	5.E+11
	91	8.6s							4 E+09				1 E+12	40%	70.0%	28.0%	4.E+11
	92	1.84s							4 E+09				2 E+12	40%	60.0%	24.0%	4.E+11
	93	1.29s							2 E+09				7 E+11	40%	60.0%	24.0%	2.E+11
	94	0.2s							1 E+09				4 E+11	40%	15.0%	6.0%	2.E+10
	95	0.78s							1 E+08				6 E+10	40%	25.0%	10.0%	6.E+09
	96	0.5s							4 E+07				2 E+10	40%	20.0%	8.0%	1.E+09
	97								5 E+06				2 E+09	40%			
Zr			^{92}Mo	9200	Li	0.4(2-step)^4	0.8/	Frag./EPAX		1	8/	10/					
	80								3 E+05				3 E+05	20%	30.0%	6.0%	2 E+04
	81	5.9s							5 E+06				5 E+06	20%	30.0%	6.0%	3 E+05
	82	32s							6 E+07				6 E+07	20%	30.0%	6.0%	3 E+06
	83	44s							3 E+08				3 E+08	20%	30.0%	6.0%	2 E+07
	84	25.9m							1 E+09				1 E+09	20%	30.0%	6.0%	8 E+07
	85	7.9m							4 E+09				4 E+09	20%	30.0%	6.0%	2 E+08
	86	16.5h							6 E+09				6 E+09	20%	30.0%	6.0%	4 E+08
	87	1.6h							8 E+09				8 E+09	20%	30.0%	6.0%	5 E+08
	88	83.4d							7 E+09				7 E+09	20%	30.0%	6.0%	4 E+08
	89	78.4h							5 E+09				5 E+09	20%	30.0%	6.0%	3 E+08
Zr			^{100}Mo	10000	Li	0.44(2-step)^4	0.9/	Frag./EPAX		1	9/	10/					
	97	16.8h							6 E+08				6 E+08	20%	30.0%	6.0%	3 E+07

Element	mass	$T_{1/2}$	beam	E_{beam}	target	thickness	Volume	σ	yield	I_{beam}	Target Power	Power Density	total yield	ε_{ion}	ε_{rel} (5)	ε_{total}	yield $_{1+}$
				[MeV]		[g/cm ^{2}]	[cm ^{3}]	[method]	[atoms / p μ A]	[p μ A]	[kW]	kW/cm ^{3}	[ions/sec]	[%]	[%]	[%]	[ions/sec]
	98	30.7s							3 E+08				3 E+08	20%	30.0%	6.0%	2 E+07
Zr			^{104}Ru	10400	Li	0.42(2-step)[4]	0.8/	Frag./EPAX		1	8/	10/					
	99	2.1s							5 E+06				5 E+06	20%	30.0%	6.0%	3 E+05
	100	7.1s							2 E+06				2 E+06	20%	30.0%	6.0%	1 E+05
Zr			^{124}Sn	12400	Li	0.4(2-step)[4]	0.8/	Frag./EPAX		1	10/	12/					
	101	2.1s							3 E+05				3 E+05	20%	30.0%	6.0%	2 E+04
	102	2.9s							1 E+05				1 E+05	20%	30.0%	6.0%	6 E+03
	103	1.3s							3 E+04				3 E+04	20%	30.0%	6.0%	2 E+03
	104	1.2s							8 E+03				8 E+03	20%	30.0%	6.0%	5 E+02
Zr			d	200	UC	n(2-step)[2]	8/	LAHET		500	100/	12.5/					
	97	16.8h						MCNP	1 E+09				5 E+11	40%			
	98	30.7s						n database	3 E+09				1 E+12	40%			
	99	2.1s							3 E+09				1 E+12	40%			
	100	7.1s							6 E+09				2 E+12	40%			
	101	2.1s							5 E+09				2 E+12	40%			
	102	2.9s							5 E+09				2 E+12	40%			
	103	1.3s							3 E+09				1 E+12	40%			
	104	1.2s							1 E+09				5 E+11	40%			
	105	1s							2 E+08				1 E+11	40%			
	106								4 E+07				2 E+10	40%			
	107								3 E+06				1 E+09	40%			
Sn			^{50}Cr	250	^{58}Ni	0.0005	5.6E-3	GANIL data		10	85w	15					
	100	1s							1 E+00				1 E+01	50%	20.0%	10.0%	1 E+00
Sn			^{3}He	435	CeC	17[3]	360	ISAPACE		250	80	0.22					
	104	20.8s							1 E+04				3 E+06	50%	8.0%	4.0%	1 E+05
	105	31s							3 E+05				6 E+07	50%	12.0%	6.0%	4 E+06
	106	2.1m							3 E+06				8 E+08	50%	35.0%	17.5%	1 E+08
	107	2.9m							3 E+07				7 E+09	50%	35.0%	17.5%	1 E+09
	108	10.5m							2 E+08				4 E+10	50%	80.0%	40.0%	2 E+10
	109	18m							7 E+08				2 E+11	50%	85.0%	42.5%	8 E+10
	110	4h							2 E+09				5 E+11	50%	100.0%	50.0%	3 E+11
	111	35.3m							4 E+09				1 E+12	50%	100.0%	50.0%	5 E+11
Sn			d	200	UC	n(2-step)[2]	8/	LAHET		500	100/	12.5/					
	125	9.5m						MCNP	9 E+08				4 E+11	50%	80.0%	40.0%	2 E+11
	126	1e+5y						n database	2 E+09				8 E+11	50%	100.0%	50.0%	4 E+11
	127	4.1m							2 E+09				8 E+11	50%	60.0%	30.0%	2 E+11
	128	59.1m							2 E+09				1 E+12	50%	95.0%	47.5%	5 E+11
	129	2.2m							1 E+09				7 E+11	50%	35.0%	17.5%	1 E+11
	130	3.7m							2 E+09				1 E+12	50%	52.0%	26.0%	3 E+11
	131	63s							2 E+09				8 E+11	50%	20.0%	10.0%	8 E+10
	132	40s							1 E+09				6 E+11	50%	16.0%	8.0%	5 E+10
	133	1.5s							4 E+08				2 E+11	50%	0.4%	0.2%	4 E+08

Element	mass	$T_{1/2}$	beam	E_{beam}	target	thickness	Volume	σ	yield	I_{beam}	Target Power	Power Density	total yield	ε_{ion}	ε_{rel} (5)	ε_{total}	yield $_{1+}$
				[MeV]		[g/cm ^{2}]	[cm ^{3}]	[method]	[atoms / p μ A]	[p μ A]	[kW]	kW/cm ^{3}	[ions/sec]	[%]	[%]	[%]	[ions/sec]
	134	1.0s							1 E+08				5 E+10	50%	0.3%	0.2%	8 E+07
	135								1 E+07				5 E+09	50%			
	136								8 E+05				4 E+08	50%			
	137								4 E+04				2 E+07	50%			
	138								2 E+03				9 E+05	50%			
Fr			^{3}He	435	ThC	20^3	360	ISAPACE		250	80	0.22					
	208	59s						scaling	1 E+08				2 E+10	95%	95.0%	90.3%	2 E+10
	209	50s							4 E+08				9 E+10	95%	95.0%	90.3%	8 E+10
	210	3.2m							7 E+08				2 E+11	95%	100.0%	95.0%	2 E+11
	211	3.1m							1 E+09				3 E+11	95%	100.0%	95.0%	3 E+11
	212	20m							2 E+09				6 E+11	95%	100.0%	95.0%	6 E+11
	213	35s							2 E+09				6 E+11	95%	90.0%	85.5%	5 E+11
	214	5ms							1 E+09				3 E+11	95%	0.1%	0.1%	3 E+08
	215	.09µs							2 E+09				6 E+11	95%			
	216	.7µs							1 E+09				3 E+11	95%			
	217	22µs							2 E+09				6 E+11	95%			
	218	.7ms							1 E+09				3 E+11	95%	0.01%	0.01%	3 E+07
	219	21ms							1 E+09				3 E+11	95%	1.0%	1.0%	3 E+09
	220	27s							8 E+08				2 E+11	95%	94.0%	89.3%	2 E+11
	221	4.8m							7 E+08				2 E+11	95%	100.0%	95.0%	2 E+11
	222	14.2m							5 E+08				1 E+11	95%	100.0%	95.0%	1 E+11
	223	22m							5 E+08				1 E+11	95%	100.0%	95.0%	1 E+11
	224	3.2m							4 E+08				9 E+10	95%	100.0%	95.0%	9 E+10
	225	4m							5 E+08				1 E+11	95%	100.0%	95.0%	1 E+11
	226	49s							2 E+08				6 E+10	95%	95.0%	90.3%	5 E+10
	227	2.5m							1 E+08				3 E+10	95%	100.0%	95.0%	3 E+10
	228	39s							1 E+08				2 E+10	95%	90.0%	85.5%	2 E+10
	229	50s							8 E+07				2 E+10	95%	95.0%	90.3%	2 E+10

[1] Two-step target/catcher combination using the ranging technique.

[2.] two-step neutron generator target.

[3.] direct irradiation target.

[4.] two-step target/gas catcher combination.

[5.] For the two--step/gas catcher technique this column represents the transmission efficiency of the recoil separator